UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,753	01/14/2004	Gregory Hagan Moulton	UND003 CON	4278

25235 7590 02/10/2005

HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEENTH ST
DENVER, CO 80202

EXAMINER	
CORRIELUS, JEAN M	

ART UNIT	PAPER NUMBER
2162	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/757,753	MOULTON ET AL.	
	Examiner	Art Unit	
	Jean M Corrielus	2162	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-40* is/are pending in the application.

4a) Of the above claim(s) *39 and 40* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *6/04 and 10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The office action is response to the amendment filed on February 5, 2001, in which claims 1-40 are presented for examination.

Information Disclosure Statement

2. The information disclosure statement (IDS) filed on June 2, 2004 and October 4, 2004 complies with the provisions of M.P.E.P. 609. It has been placed in the application file. The information referred to therein has been considered as to the merits.

Drawings

3. Applicants are required to furnish the formal drawings in response to this office action. No new matter may be introduced in the required drawings. Failure to timely submit a drawing will result in ABANDONMENT of the application.

Claim Objections

4. Claims 39 and 40 are objected to under 37 CFR 1.75 as being a substantial duplicate of claims 1-2. Applicants are reminded when two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k). Claims 39 and 40 are withdraw from examination.

5. Claim 7 objected to because of the following informalities: claim 7, line change "probabalistically" to – probabilistically--. Appropriate correction is required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-38 are rejected 35 U.S.C. 101 because they are directed to non-statutory subject matter, specifically, as directed to an abstract idea.

Claims 1, 14 and 25 define non-statutory processes because it merely manipulates an abstract idea without a claimed limitation to a practical application. Data structure not claimed as embodied in computer-readable media is descriptive material per SE and is not statutory because they are neither physical nor statutory processes. Structural and functional interrelationship with a general-purpose computer for permitting claimed functions to be realized are not provided in the claims. In contrast, a claimed system should define structural and functional interrelationships between data structures or functional parts and a computer system which permit the data functions to be realized, and is statutory. Thus, the claimed are rejected as being non-statutory. Additionally, the invention, as claimed, is directed to the manipulation of an abstract idea with no practical application in the technology arts. The claim sets forth a method for managing data. The language of the claim does not transform the claimed subject matter into statutory subject matter. Clearly, the recital is merely a field of use or desired end of use limitation. Data that are merely stored or contained in a memory (or database) are simply functional descriptive material without being executed by a general-purpose computer. Thus, the

claim is lack a practical application in the technological arts. Such managing data can be done in a piece of paper, where one having ordinary skill in the art would produce a random number a data record and compare that random number with the previously random number in the sheet. Applicant is advised to amend the claim by specifying the claim being directed to a practical application and being executed by a general purpose computer in order to correct the above indicated deficiencies.

The dependent claims 2-13, 15-24 and 26-38 suffer of similar deficiencies of their respective base claims, as noted above.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites "producing a probabilistically unique identifier for a digital sequence" and "comparing said probabilistically unique identifier to a list of other identifiers with their corresponding digital sequences" and claim 14 recites "comparing said probabilistically unique identifiers to a list of other identifier" and claim 25 recites "comparing said probabilistically unique identifiers to a list of other identifiers corresponding to other digital sequences". It is not clear how one having ordinary skill in the art would produce a

probabilistically unique identifier for a digital sequence without dividing the data file into a plurality of pieces. So the probabilistically unique identifier is produced after the division process is established, in other words, no probabilistically unique identifier can be produced. Secondly, The probabilistically unique identifier can only compare with a previously stored probabilistically unique identifier in the hash file system directory upon completion of the file division process of the probabilistically unique identifier produced for each of the portion of the file (See specification pages 22 and 23). Therefore, without having previously stored the probabilistically unique identifier in the hash file system directory the comparison process cannot be performed.

10. Claims 1-24 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: "dividing a digital sequence into a plurality of digital sequences, wherein digital sequence is a computer data file into a hash file system"; "producing a probabilistically unique identifier for each digital sequence, **wherein said probabilistically unique identifier is a hash value of each of the digital sequence**"; and 'comparing the probabilistically unique identifier of each digital sequence **to those of existing probabilistically unique identifier maintained in the hash file system**". Applicants are advised to amend the claims to solve the 112-rejection set forth in the office action.

The dependent claims 2-13, 15-24 and 26-38 are rejected for fully incorporating the errors of their respective base claims by dependency.

Double Patenting

6. The non-statutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of the U.S. Patent number 6,704,730. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons: Claim 1 of the instant application substantially recites the limitations of claim 1 of the cited co-pending application. The claim merely omits certain the underlined limitations and replaces the bolded limitations as shown in comparison tables 1, 2 and 3 below.

Patent **Claim 1**	**Application Claim 1**
1. A computing environment comprising: at least one list for maintaining portions of digital sequences and corresponding probabilistically unique identifiers for each of said portions of the digital sequences; at least one new digital sequence; at least one portioning mechanism for dividing said new digital sequence into a plurality of shorter digital sequences; and a comparison mechanism for determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list.	1. **A method for managing data comprising:** **producing a** probabilistically unique identifier for a digital sequence; and comparing said probabilistically unique identifier **to a list of other identifiers with their corresponding digital sequences.**

Table 1

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated claim 1 of the instant application since the omission and addition of the cited limitations would have not changed the process according to which the method of eliminating redundant copies of aggregate blocks of data from a computer system. Therefore, the ordinary skilled artisan would have been also motivated to modify claim 1 of the cited US patent application by adding dividing the digital sequences into a plurality of shorter digital sequences and determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list. The cited adding elements would not interfere with the functionality of the steps previously claimed and would perform the same function. In re Karlson, 136 USPQ 184 (CCPA 1963).

The dependent claims 2-13 of the instant application are rejected for fully incorporating the errors of their respective base claims by dependency.

Patent Claim 1	Application Claim 14
1. A computing environment comprising: at least one list for maintaining portions of digital sequences and corresponding probabilistically unique identifiers for each of said portions of the digital sequences; at least one new digital sequence; at least one portioning mechanism for dividing said new digital sequence into a plurality of shorter digital sequences; and a comparison mechanism for determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list.	**14. A method for managing data comprising:** dividing a digital sequence into a plurality of shorter digital sequences; and **producing probabilistically unique identifiers for each said plurality of shorter digital sequences; and** **comparing said probabilistically unique identifiers to a list of other identifiers.**

Table 2

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated claim 14 of the US Patent application since the omission and addition of the cited limitations would have not changed the process according to which the method of eliminating redundant copies of aggregate blocks of data from a computer system. Therefore, the ordinary skilled artisan would have been also motivated to modify claim 14 of the cited US Patent application by adding the use a comparison mechanism for determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list. The cited omitting elements would not interfere with the functionality of the steps previously claimed and would perform the same function. In re Karlson, 136 USPQ 184 (CCPA 1963).

The dependent claims 15-24 of the instant application are rejected for fully incorporating the errors of their respective base claims by dependency.

Patent Claim 1	Application Claim 25
1. A computing environment comprising: at least one list for maintaining portions of digital sequences and corresponding probabilistically unique identifiers for each of said portions of the digital sequences; at least one new digital sequence; at least one portioning mechanism for dividing said new digital sequence into a plurality of shorter digital sequences; and a comparison mechanism for determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list.	25. **A computer program product comprising:** **a computer usable medium having computer readable code embodied therein for managing data, said computer program product comprising:** **computer readable program code devices configured to cause a computer to effect producing** a probabilistically unique identifier for a digital sequence; and **computer readable program code devices configured to cause a computer to effect comparing said** probabilistically unique identifier to a list of other identifiers corresponding to other digital sequences.

Table 3

It would have been obvious to one of ordinary skill in the art of data processing at the time the invention was made to modify the cited steps as indicated claim 25 of the US Patent application since the omission and addition of the cited limitations would have not changed the process according to which the method of eliminating redundant copies of aggregate blocks of data from a computer system. Therefore, the ordinary skilled artisan would have been also motivated to modify claim 25 of the cited US Patent application by adding the use a comparison mechanism for determining if any one of said probabilistically unique identifiers for each of said plurality of shorter digital sequences is currently maintained in said list. The cited omitting elements would not interfere with the functionality of the steps previously claimed and would perform the same function. In re Karlson, 136 USPQ 184 (CCPA 1963).

The dependent claims 26-38 of the instant application are rejected for fully incorporating the errors of their respective base claims by dependency.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. Claims 1 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Williams US Patent 5,990,810.

As to claim 1, Williams discloses an analogous method for partitioning one or more blocks of data into subblocks for the purpose of communicating and storing subblocks in an efficient manner. In particular, Davis discloses the claimed "producing a **probabilistically** unique identifier for a digital sequence" as hash value for digital signature, signs as to receive from wherein hash value is the **probabilistically** unique identifier (col.9, lines 1-7); and "comparing said **probabilistically** unique identifier to a list of other identifiers with their corresponding digital sequences" as to compare the received signatory list against all versions of the signatory list previously received (col.9, lines 1-20).

Claim 25 is computer program product for performing the method of claim 1 above. They are, therefore, rejected under the same rationale. In addition, Williams discloses a computer readable medium (col.18, line 50-col.19, line 60).

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 2-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis US Patent No. 6,219, 423 and Williams US Patent no. 5,990,810.

As to claims 2-6, Davis discloses substantially the invention as claimed, except for adding the probabilistic unique identifier not previously in the list and removing probabilistic unique identifier in the list; adding and removing said digital sequence; and adding and removing correspondence between said digital sequence and probabilistic unique identifier. Williams, on the other hand, discloses an analogous method for partitioning one or more blocks of data into subblocks for the purpose of communicating and storing subblocks in an efficient manner. In particular, Williams disclose the claimed features "adding the probabilistic unique identifier not previously in the list and removing probabilistic unique identifier in the list; adding and removing said digital sequence; and adding and removing correspondence between said digital sequence and probabilistic unique identifier" by adding to the collection the subblocks that are not already in the collection and also removing the subblocks associated in the collection (col.4, lines 18-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of

adding the probabilistic unique identifier not previously in the list and removing probabilistic unique identifier in the list; adding and removing said digital sequence; and adding and removing correspondence between said digital sequence and probabilistic unique identifier, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 7, Davis discloses substantially the invention as claimed, except for hashing said digital sequence to produce said probabilistically unique identifier. On the other hand, Williams discloses the claimed features "hashing said digital sequence to produce said probabilistically unique identifier" (col.4, lines 60-67; col.7, lines 1-15; col.11, lines 8-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of hashing said digital sequence to produce said probabilistically unique identifier, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claims 8-9, Davis discloses an industry standard digest algorithm, MD5 (col.2, lines 55-65).

As to claim 10-13, Davis discloses substantially the invention as claimed, except for generating a checksum... descriptive metadata and a digital sequence. On the other hand, Williams discloses the claimed features "generating a checksum... descriptive metadata and a digital sequence" (col.7, lines 1-15; col.11, lines 8-58; col.11, lines 8-23; col.18, lines 31-40). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of generating a checksum... descriptive metadata and a digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim, 14, Davis discloses the claimed "producing a **probabilistically** unique identifier for." as hash value for digital signature, signs as to receive from wherein hash value is the **probabilistically** unique identifier (col.9, lines 1-7); and "comparing said **probabilistically** unique identifier to a list of other identifiers with their corresponding digital sequences" as to compare the received signatory list against all versions of the signatory list previously received (col.9, lines 1-20). However, Davis fails to disclose the use of dividing a digital sequence into a plurality of shorter digital sequence.

On the other hand, Williams discloses the claimed "dividing a digital sequence into a plurality of shorter digital sequence" (col.1, lines 42-47; col.2, lines 42-48; col.6, lines 1-24; col.18, lines 50-62; col.19, lines 35-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references,

wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 15, Davis discloses substantially the invention as claimed except for dividing a digital sequence into a plurality of shorter digital sequence.

On the other hand, Williams discloses the claimed "dividing a digital sequence into a plurality of shorter digital sequence" (col.1, lines 42-47; col.2, lines 42-48; col.6, lines 1-24; col.18, lines 50-62; col.19, lines 35-65). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 16, Davis discloses substantially the invention as claimed except for comparing each plurality of identifiers to the list.

On the other hand, Williams discloses the claimed "comparing each plurality of identifiers to the list" (col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references,

wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 17, Davis discloses substantially the invention as claimed except for having individually variable lengths.

On the other hand, Williams discloses the claimed "having individually variable lengths" (col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 18, Davis discloses substantially the invention as claimed except dividing based on the content of said digital sequence.

On the other hand, Williams discloses the claimed "dividing based on the content of said digital sequence." (Col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited

references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 19, Davis discloses substantially the invention as claimed except dividing based on meta data describing said digital sequence.

On the other hand, Williams discloses the claimed "dividing based on meta data describing said digital sequence" (col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 20, Davis discloses substantially the invention as claimed except having substantially invariable lengths.

On the other hand, Williams discloses the claimed "having substantially invariable lengths." (Col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references,

wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claim 21, Davis discloses substantially the invention as claimed except for individually hashing said shorter digital sequences to produce said like plurality of probabilistically unique identifiers.

On the other hand, Williams discloses the claimed "individually hashing said shorter digital sequences to produce said like plurality of probabilistically unique identifiers." (Col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50; col.18, line 40-col.19, line 60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claims 22, Davis discloses substantially the invention as claimed except for dividing said digital sequence into a plurality of shorter digital sequences.

On the other hand, Williams discloses the claimed "dividing said digital sequence into a plurality of shorter digital sequences" col.1, lines 42-65; col.3, lines 30-65; col.4, lines 50-65; col.2 lines 42-48; col.6, lines 1-45; col.15, line 65-col.16, line 50; col.18, line 40-col.19, line 60). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of dividing a digital sequence into a plurality of shorter digital sequence, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

As to claims 23-24, Davis discloses substantially the invention as claimed, except for adding the plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list and removing plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list. Williams, on the other hand, discloses an analogous method for partitioning one or more blocks of data into subblocks for the purpose of communicating and storing subblocks in an efficient manner. In particular, Williams disclose the claimed features "adding the plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list and removing plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list" by adding to the collection the subblocks that are not already in the collection and also

removing the subblocks associated in the collection (col.4, lines 18-55). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teaching of the cited references, wherein the random number generator, provided therein (see Davis' fig.7, item 420) would incorporate the use of adding the plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list and removing plurality of shorter digital sequences and said corresponding like plurality of probabilistic unique identifier to said list, as the same conventional manner as disclosed by Williams for the purpose of reducing redundancy by increasing the efficiency of systems that store and communicate data.

Claims 26-38:

Claims 26-38 are computer program product for performing the method of claims 2-13 above. They are, therefore, rejected under the same rationale.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean M Corrielus whose telephone number is (571) 272-4032. The examiner can normally be reached on 10 hours shift.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jean M Corrielus
Primary Examiner
Art Unit 2162

February 6, 2005